

Repairing CAD models

G Barequet, S Kumar - Proceedings of the 8th conference on ..., 1997 - portal.acm.org
 ... All unselected zero-volume solids and dangling components are saved into an error-file and removed from the model. ... We have experimented with the algorithm on several data files (with many hundreds of thousand polygons) obtained from CAD systems. ...

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psu.edu [PDF]

GAPS: General and automatic polygonal simplification

C Erikson, D Manocha - Proceedings of the 1999 symposium on ..., 1999 - portal.acm.org
 ... To estimate the maximum error over an entire object, we take a weighted average of all ... By applying our technique on a number of models, we have found that a constant of ... produced good results on a variety of datasets including scanned, terrain, radiositized, and CAD objects. ...

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psu.edu [PDF]

Rapid prototyping with sloping surfaces

RL Hoge, PA Jacobs, RN Roth - Rapid Prototyping ..., 1997 - lat.emeraldinsight.com
 ... where the CAD model intersects the layer plane is dependent on three factors. Layer thickness, curvature of the surface, and the angle of the radius of curvature to the layer plane. The graph in Figure 5 shows the error when the plane of maximum surface curvature is normal to ...

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e3k.com [PDF]

Registration of CAD-models to images by iterative inverse perspective matching

P Wunsch, G Hirzinger - Proc. ICPR, 1996 - doi.ieeecomputersociety.org
 ... 5], the constant 0.6745 being one half of the inter-quartile range of the normal distribution. ... for a point located 200mm from the camera leads to a depth reconstruction error of 1.07 ... We have presented a new algorithm for registering a 3- dimensional CAD model to a 24imensional ...

Cited by 64 - Related articles - Bl. Direct - All 3 versions

PDF Object modeling by registration of multiple range images

Y Chen, G Medioni - Image and Vision Computing, 1992 - math.zju.edu.cn
 ... it is either not possible or not practical to have access to such CAD models, and we ... Our object modeling system attempts to build a complete model for an object through the integration of ... The error images are computed as the distances from the surface of the first image to the ...

Cited by 1087 - Related articles - All 6 versions

zju.edu.cn [PDF]

View-dependent simplification of arbitrary polygonal environments

D Luebke, C Erikson - Proceedings of the 24th annual conference ..., 1997 - portal.acm.org
 ... This process iterates until unfolding the top node of the queue would exceed the triangle budget, at which point the maximum error has been ... In a design-review setting, CAD users may want to visualize their revisions in the context of the entire model several times a day. ...

Cited by 555 - Related articles - All 36 versions

psu.edu [PDF]

Adaptive slicing with sloping layer surfaces

RL Hoge, RN Roth - Rapid Prototyping Journal, 1997 - emeraldinsight.com
 ... measure of the error is the maximum distance in the layer plane between the boundary of the original CAD model and the boundary of the layered part. This measure of error has also been used by Novac et al. (1997) and is indicated as c in Figure 2. When the normal to the ...

Cited by 61 - Related articles - Bl. Direct - All 10 versions

psu.edu [PDF]

Generation of an STL file from 3D measurement data with user-controlled data ...

YH Chen, CT Ng, YZ Wang - The International Journal of Advanced ..., 1999 - Springer
 ... Most recent commercial CAD/CAM software systems are capable of generating STL files directly from ... The majority of triangulation methods are based on a known surface model [5, 6].
 Triangulation ... The bounded error E_p is measured along the patch direction normal, that is E_p ...

Cited by 33 - Related articles - Bl. Direct - All 3 versions

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PDF Registration and integration of multiple object views for 3 D model ...

C Dorai, G Wang, AK Jain, C Mercer - IEEE Transactions on Pattern ..., 1993 - Citeseer

psu.edu [PDF]

... is REFAB [17] that allows an interactive specification of the types and locations of features in a mechanical part and generates the parameterizations of features to be converted into a usable **CAD model**. ... at the k th iteration, $\Pi\Pi = -\nabla = \text{a p a n p 1 6 J L 0}$ is the line **normal** to Fig. ...
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[PDF] **Automatic reconstruction of 3D CAD models from digital scans**

F Bernardini, CL Bajaj, J Chen, D Schikore - International Journal of ..., 1999 - Citeseer

... and the reconstruction is guaranteed to be homeomorphic and error bounded with respect ...

Automatically reconstructing a **CAD model** of the object from a dense and uniform sampling ... When

reconstructing a **model** representation from unorganized points, a major problem is that ...

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